Letter to the Editor

Achilles Tendon Reconstruction with Semitendinous Tendon Grafts Is Associated with a High Complication Rate

To the Editor:

We have read with great attention the recent article by Stenroos and Brinck.[1] We congratulate the authors for sharing their 10-year experience on the use of a free semitendinosus tendon graft for ailments of the Achilles tendon. We would, however, like to point out a few issues, reflecting the fact that we advocate the use of the free ipsilateral semitendinosus tendon graft for such pathologies.[2]

We do not understand why the authors used a semitendinosus (ST) graft to reinforce a primary repair of acute tears of the Achilles tendon. Though augmentation of a primary repair remains popular (in typical orthopaedic surgeon fashion, 'if it is stronger it must be better'), there is firm level I evidence that shows that augmentation (in any form) confers no advantage and is associated with an increased rate of complications.[3] Some habits are obviously hard to break, even in countries that are major contributors to evidenced-based recommendations in our field.

We started using free hamstring tendons at the end of the last century to manage chronic ruptures of the Achilles tendon, originally employing a free ipsilateral gracilis tendon, and later transitioning to semitendinosus.[4,5] During this journey, we described the use of minimally invasive techniques to avoid the large incisions and extensive debridement reported by Stenroos and Brinck, and moved from harvesting the tendon from the pes anserinus to harvest it through a 2.5-cm incision in the popliteal fossa. In an area such at the posterior aspect of the ankle and lower calf, plagued by high rates of delayed healing and infections, the use of minimally invasive techniques allowed us to minimize the change of such problems.[5] We published our results widely, and we wonder why the authors did not consider these novel techniques.

Stenroos and Brinck state that few articles report the use of semitendinosus in these conditions. We respectfully point out that we have published extensively on the techniques, their evolution and variations, and relevant results.[2,4-10] In addition, for chronic tears of the Achilles tendon, we have published one of the few comparative studies reporting the outcome of free ipsilateral tendon graft, transfer of the flexor hallucis longus tendon, and transfer of the peroneus brevis.[8] In that article, we did not identify much difference between the three tendon transfers, and tried to define the circumstances when one should (and could) be used over the others.

In addition to our work, other authors have used hamstring tendons to reconstruct chronic tears of the Achilles tendon with excellent results.[11-15]

In Table 2 of Stenroos and Brinck's article, the difference between neglected rupture (N = 15) and chronic rupture (N = 23) is unclear.

The authors report their 10-year experience, with six surgeons having operated on an average of less than 6 patients per year. Could it be an issue of learning curve?

In any case, it is important to have different views on the same issues. Stenroos and Brinck should be commended for reporting their negative experience; science advances through careful examination and critical appraisal of their own results.

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Author's Response

To the Editor:

We would like to thank Dr. Maffulli and Dr. Migliorini for their constructive criticism.

Dr. Maffulli and Dr. Migliorini questioned why ST graft was used to reinforce a primary repair. We agree with them that primary repair of Achilles tendon rupture very seldom requires augmentation, and it is associated with higher rate of wound complications. We have to admit that we share their wonderment. Due to the retrospective nature of the study the reason behind this chosen method of treatment remains unknown.

Though we speculated that avascular semitendinous graft might contribute to a higher rate of infections than in previously published studies with different augmentation techniques, it is possible that the technique used in our clinic is associated with a high rate of complications. The long incision and the large exposure of the tendon with extensive debridement of the tendon can be the reason behind the high rate of complications presented in our clinic. These wound healing problems can probably be avoided by using a less invasive technique as presented by Maffulli, et al.[1] Maffulli and Migliorini questioned why we haven't considered minimally invasive techniques as they have published. Well, as they stated: "Some habits are obviously hard to break."

Our choice of wording didn't encapsulate the current situation in the best possible way. Maffulli et al has published extensively on use of ST graft. Though there are very few studies from a unit such as ours where the number of patients is low and on the other and several surgeons treat these patients. Unfortunately, the great article[2] on management of chronic Achilles tendon ruptures using less invasive techniques was published after we submitted this paper.

The technique used in these articles was not similar to our surgical technique. Accurate data on postoperative complications on ST graft is currently limited. Furthermore, the documentation of complications varied with different study designs. Importantly, our study was based only on complications and a comparison with other studies has to be done with precaution. Continuous internal institutional assessment of treatment quality should be a part of

modern treatment. We want to highlight and encourage reporting and analyzing all complications objectively, because there is always a possibility to learn from other surgeons' errors. As this knowledge and experience becomes more common, it will increase the quality of care.

In daily practice there is no difference between chronic and neglected ruptures. We considered "neglected rupture" as an Achilles rupture that was misdiagnosed leading to considerable delay in the treatment. Thus, the reason for the delay was due to the misdiagnosis, not due to the patient's delay in seeking medical care.

A learning curve is likely to be one issue in addition to large exposure and extensive debridement explaining the high complication rate in our unit. Thus, based on our experience in recent years, patients with chronic ruptures have been allocated to few surgeons. In addition to this we have switched to FHL transfer.

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